PURCHASE DESCRIPTION

POWER METER TEST SET

WAOFV-J

1.0 GENERAL This procurement requires a power meter test set capable of measuring continuous wave (CW) radio frequency (RF) power levels over the frequency range ot 10 MHz to 18 GHz.

2.0 CLASSIFICATION The equipment shall meet the requirements of MIL-T-28800(), Type II, Class 5, Style EP, Color R for Navy shipboard, submarine and shore applications with the following modifications and exceptions:

a. The Electromagnetic Interference requirements of MIL-T-28800 () are limited to CE01 (relaxed 20 dB), CE03 (broadband limits relaxed 20 dB below 200 kHz), CSOI, CS02 (0.05 to I 00 MHz), CS06, RE01 (0.03 to 15 kHz), RE02 (14 kHz to 1. GHz) and RS03.

b. The warm-up time is extended to one hour.

3.0 OPERATIONAL REQUIREMENTS The test set shall respond to the average pcyver and indicate the RMS power of CW RF signal levels within the parameters and accuracies specffied herein.

3.1 Power Meter

3.1.1 Frequency Range: At least 10 MHz to 18 GHz

3.1.2 Power Range: At least -60 dBm (I nW) to +20 dBm (1 00 mW)

3.1.3 Meter Indicator/ Readout
3.1.3.1 Display: Digital
3.1.3.1.1 Resolution: At least 0.01 dB (i.e., 4-1/2 digits)
3.1.3.1.2 Analog peaking indicator Meter or bargraph
3.1.3.1.3 Units, dSm / relative dB / watts
3.1.3.2 Stability: Drift shall be ≤ 1.5% of full scale on the most sensitive scale (in a 5 @minute period following warm-up @ 25°C ±10°C) in a non- averaging mode of operation and irrespective of the power sensor configuration.

3.1.3.2.1 Zero Set: Manual or automatc zeroing of power sensor indication

3.1.4 Reference
3.1.4.1 Frequency: 50 MHz nominal
3.1.4.2 Level: 1 mW / 0.0 dBm
3.1.4.2.1 Accuracy: ±1.5%/year @ 25°C ±lO°C

3.1.5 Sensor Calibrabon: Manual or electronic entry of sensor cal factor vs frequency
3.1.5.1 Non-volatile storage: Cal factors for at least two sensors wfth up to 20 frequencies stored

3.2 Sensor (s) Requirement @avg responding I true rms reading)

3.2.1 Impedance: 50 0

3.2.2 Ovedoad Protection: 200 mW continuous or peak causes no damage.
3.2.2.1 Ovedoad Indicaton: The meter shall indicate an overrange condftjon when the rms I power level exceeds the operating range of the sensor.

3.2.3 Connector: **Type N** (male)
3.2-3.1 VSWR: Shall be:5 1.4:1 over entire frequency range **oi** 3.1.1.

3.2.4 Measurement Uncertainty **(RSS):** ±4.0%, not including source mismatch over the entire frequency range of **3.1.1**

3.2.5 Sensor Cables
3.2.5.1 Length: 1.5 m (5 ft) minimum

3.3 Outputs
3.3.1 Recorder: **DC** level lineady proportional to indicated level on each range.

4.0 GENERAL REQUIREMENTS

4.1 Power Source: 11 5 and 230 Vac (±l 0%), single phase, at frequencies of **50** and 60 Hz (±l 0%); and 11 5 Vac (±l 0%) single phase, at frequency of 400 Hz (±l 0%), 25 watts maximum

4.2 Lithium Bafteries: Per **MIL-T-28800,** lithium batteries are prohibited without prior authorization. Requests for approving the use of lithium batteries, including those encapsulated in integrated circuits, shall be submftted to the procuring activity at the time of submission **of** proposals, Approval shall apply only to the specific model proposed.

4.3 Dimensions: The total volume shall not excmd 8200 CM3 (500 jn3).

4.4 Wei-ght: The overall weight of the unit shall not exceed 15 kg (33 lb).

4.5 CalibratioI3 Interval: The calibration interval shall be 12 months minimum. The equipment shall be wfthin all accuracy requirements specified herein, wfth a 72% or greater confidence factor following a calibrabon interval of 12 months.

4.6 Remote Operation: The unit will be capable **of** remote operation via IEEE-488() bus interface. It shall operate as a talker and/or listener such that all functions except the power on/off switch are controllable.

4.7 **Transd Case:** The transit **case** shall provide protection for all components of the power **measuring** test set.